Mitchell L R Walker

List of Publications by Year
in descending order

77	1,250	331670 21	414414 32
papers	citations	h-index	g-index

78	78	78	535
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Formation and Impact of Microcracks in Plasma Erosion of M26 Boron Nitride. Journal of Propulsion and Power, 2021, 37, 59-67.	2.2	4
2	Bayesian framework for THz-TDS plasma diagnostics. Optics Express, 2021, 29, 4887.	3.4	5
3	Noninvasive THz-TDS measurements of plasma bounded and optically shielded by Hall thruster wall material. Plasma Sources Science and Technology, 2021, 30, 075027.	3.1	1
4	Optical Analysis of Nanosecond-Lifetime Plasma Parameters. IEEE Transactions on Plasma Science, 2020, 48, 179-188.	1.3	2
5	Field Emission Damage Modes of Carbon Nanotube Spindt Cathode Arrays. Jom, 2020, 72, 544-551.	1.9	2
6	Review of Plasma-Induced Hall Thruster Erosion. Applied Sciences (Switzerland), 2020, 10, 3775.	2.5	30
7	Time-Resolved Measurements of Plasma Parameters for Nanosecond-Pulsed Argon Plasmas. IEEE Transactions on Plasma Science, 2020, 48, 1060-1075.	1.3	4
8	Background Flow Model Validation with a Six-Kilowatt Hall Effect Thruster. Journal of Propulsion and Power, 2020, 36, 308-311.	2.2	0
9	Effects of Ingested vs. Injected Propellant on Radio-Frequency Discharge Plasma Properties. Frontiers in Physics, 2019, 6, .	2.1	1
10	Plasma interaction with emmissive surface with Debye-scale grooves. Plasma Sources Science and Technology, 2018, 27, 045004.	3.1	5
11	PIC simulations of post-pulse field reversal and secondary ionization in nanosecond argon discharges. Plasma Sources Science and Technology, 2018, 27, 055011.	3.1	12
12	Neutral Ingestion Effects on Plume Properties of a Radio-Frequency Plasma Discharge. Journal of Propulsion and Power, 2018, 34, 58-65.	2.2	4
13	Electrical Facility Effects on Faraday Probe Measurements. Journal of Propulsion and Power, 2018, 34, 267-269.	2.2	2
14	Impact of Propellant Species on Hall Effect Thruster Electrical Facility Effects. Journal of Propulsion and Power, 2018, 34, 600-613.	2.2	5
15	ELECTROMAGNETICALLY INDUCED DISTORTION OF A FIBRIN MATRIX WITH EMBEDDED MICROPARTICLES. Journal of Mechanics in Medicine and Biology, 2018, 18, 1850016.	0.7	1
16	Recommended Practice for Flow Control and Measurement in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 556-565.	2.2	7
17	Background Flow Model of Hall Thruster Neutral Ingestion. Journal of Propulsion and Power, 2017, 33, 1087-1101.	2.2	31
18	Recommended Practice for Thrust Measurement in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 539-555.	2.2	83

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19	Electric propulsion reliability: Statistical analysis of on-orbit anomalies and comparative analysis of electric versus chemical propulsion failure rates. Acta Astronautica, 2017, 139, 141-156.	3.2	28
20	Investigation of Plasma Material Erosion Under Mechanical Stress. Journal of Propulsion and Power, 2017, 33, 433-447.	2.2	4
21	Recommended Practice for Pressure Measurement and Calculation of Effective Pumping Speed in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 668-680.	2.2	60
22	Recommended Practice for Use of Faraday Probes in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 582-613.	2.2	80
23	Optimizing fast discharges for high speed time varying plasma antenna using particle in cell simulations. , 2017, , .		0
24	Numerical Modeling Of High Speed Time Varying Plasma Antenna Using Electromagnetic 2D Particle-In-Cell Simulation. , 2017, , .		0
25	Hysteresis and mode transitions in plasma sheath collapse due to secondary electron emission. Journal of Applied Physics, 2016, 119, 113305.	2.5	2
26	Electrical Facility Effects on Hall Current Thrusters: Electron Termination Pathway Manipulation. Journal of Propulsion and Power, 2016, 32, 1365-1377.	2.2	17
27	Electrical Facility Effects on Hall Thruster Cathode Coupling: Performance and Plume Properties. Journal of Propulsion and Power, 2016, 32, 251-264.	2.2	36
28	Electrical Facility Effects on Hall-Effect-Thruster Cathode Coupling: Discharge Oscillations and Facility Coupling. Journal of Propulsion and Power, 2016, 32, 844-855.	2.2	27
29	Velocimetry of cathode particles in a magnetoplasmadynamic thruster discharge plasma. Review of Scientific Instruments, 2015, 86, 073513.	1.3	2
30	Plume Structure and Ion Acceleration of a Helicon Plasma Source. IEEE Transactions on Plasma Science, 2015, 43, 1694-1705.	1.3	7
31	Effect of secondary electron emission on the plasma sheath. Physics of Plasmas, 2015, 22, .	1.9	52
32	Effects of wall electrodes on Hall effect thruster plasma. Physics of Plasmas, 2015, 22, .	1.9	6
33	A review of research in low earth orbit propellant collection. Progress in Aerospace Sciences, 2015, 75, 15-25.	12.1	35
34	Operation of a Carbon Nanotube Field Emitter Array in a Hall Effect Thruster Plume Environment. IEEE Transactions on Plasma Science, 2015, 43, 95-102.	1.3	9
35	Power Deposition into the Discharge Channel of a Hall Effect Thruster. Journal of Propulsion and Power, 2014, 30, 209-220.	2.2	15
36	Effect of External Cathode Azimuthal Position on Hall-Effect Thruster Plume and Diagnostics. Journal of Propulsion and Power, 2014, 30, 506-513.	2.2	15

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37	Three-Dimensional Model for Erosion of a Hall-Effect Thruster Discharge Channel Wall. Journal of Propulsion and Power, 2014, 30, 1373-1382.	2.2	7
38	Role of a Conducting Vacuum Chamber in the Hall Effect Thruster Electrical Circuit. Journal of Propulsion and Power, 2014, 30, 1471-1479.	2.2	34
39	Effects of wall material, wall temperature, and surface roughness on the plasma sheath. , 2014, , .		0
40	Effects of surface roughness on plasma sheath. , 2014, , .		0
41	Atmospheric Electric Propulsion Mission Performance Tool. Journal of Spacecraft and Rockets, 2014, 51, 931-937.	1.9	5
42	Plasma-Induced Erosion on Ceramic Wall Structures in Hall-Effect Thrusters. Journal of Propulsion and Power, 2014, 30, 690-695.	2.2	23
43	Initial Performance Evaluation of a Gridded Radio Frequency Ion Thruster. Journal of Propulsion and Power, 2014, 30, 645-655.	2.2	11
44	Study on Anomalous Electron Diffusion in the Hall Effect Thruster. International Journal of Aeronautical and Space Sciences, 2014, 15, 320-334.	2.0	5
45	Charge exchange interactions on near-Earth proton radiation for orbit perturbation of high area-to-mass ratio objects. Advances in Space Research, 2013, 52, 496-504.	2.6	0
46	Thrust Measurements of a Radio Frequency Plasma Source. Journal of Propulsion and Power, 2013, 29, 520-527.	2.2	50
47	Propellant Thermal Management Effect on Neutral Residence Time in Low-Voltage Hall Thrusters. Journal of Propulsion and Power, 2013, 29, 528-539.	2.2	14
48	Ion production cost of a gridded helicon ion thruster. Plasma Sources Science and Technology, 2013, 22, 055019.	3.1	9
49	Neutral Gas Expansion in a Cylindrical Helicon Discharge Chamber. Journal of Propulsion and Power, 2013, 29, 540-546.	2.2	6
50	Potential contour shaping and sheath behavior with wall electrodes and near-wall magnetic fields in Hall thrusters. Physics of Plasmas, 2012, 19, .	1.9	6
51	Plume Characterization of an Ion-Focusing Hall Thruster. Journal of Propulsion and Power, 2012, 28, 1105-1115.	2.2	13
52	Utilization of Residual Helium to Extend Satellite Lifetimes and Mitigate Space Debris. Journal of Propulsion and Power, 2012, 28, 1406-1412.	2.2	0
53	Thrust Measurements of a Helicon Plasma Source. , 2011, , .		7
54	Ambient Atmosphere Ion Thruster (AAIT) Proof-of-Concept Modeling. , 2011, , .		2

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55	Self-consistent, one-dimensional analysis of the Hall effect thruster. Plasma Sources Science and Technology, 2011, 20, 045021.	3.1	10
56	Technique to Collimate Ions in a Hall-Effect Thruster Discharge Chamber. Journal of Propulsion and Power, 2011, 27, 564-572.	2.2	2
57	Lifetime and Failure Mechanisms of an Arrayed Carbon Nanotube Field Emission Cathode. IEEE Transactions on Electron Devices, 2010, 57, 3163-3168.	3.0	28
58	rf power system for thrust measurements of a helicon plasma source. Review of Scientific Instruments, 2010, 81, 075106.	1.3	11
59	Effect of Anode Temperature on Hall Thruster Performance. Journal of Propulsion and Power, 2010, 26, 1036-1044.	2.2	30
60	PHARO—Propellant harvesting of atmospheric resources in orbit. , 2010, , .		4
61	High-power, null-type, inverted pendulum thrust stand. Review of Scientific Instruments, 2009, 80, 055103.	1.3	88
62	Operation of an Annular Helicon Plasma Source. Journal of Propulsion and Power, 2009, 25, 1013-1019.	2.2	12
63	Response to â€œComment on â€˜Plasma ionization by annularly bounded helicon wavesâ€™â€‰â€•[Phys. Plasmas 16, 044701 (2009)]. Physics of Plasmas, 2009, 16, 054702.	1.9	1
64	Analytic wave solution with helicon and Trivelpiece-Gould modes in an annular plasma. , 2009, , .		0
65	Operation of an Annular Helicon Plasma Source. , 2008, , .		1
66	Hall Thruster Cluster Operation with a Shared Cathode. Journal of Propulsion and Power, 2007, 23, 528-536.	2.2	26
67	Performance Characteristics of a Cluster of 5-kW Laboratory Hall Thrusters. Journal of Propulsion and Power, 2007, 23, 35-43.	2.2	30
68	Generalized theory of annularly bounded helicon waves. Physics of Plasmas, 2007, 14, 033510.	1.9	5
69	Design and Operation of an Annular Helicon Plasma Source. , 2007, , .		1
70	Magnetically filtered Faraday probe for measuring the ion current density profile of a Hall thruster. Review of Scientific Instruments, 2006, 77, 013503.	1.3	23
71	Plasma ionization by annularly bounded helicon waves. Physics of Plasmas, 2006, 13, 063501.	1.9	19
72	Ion Collection in Hall Thruster Plumes. Journal of Propulsion and Power, 2006, 22, 205-209.	2.2	16

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73	Neutral density map of Hall thruster plume expansion in a vacuum chamber. Review of Scientific Instruments, 2005, 76, 053509.	1.3	22
74	Effect of Backpressure on Ion Current Density Measurements in Hall Thruster Plumes. Journal of Propulsion and Power, 2005, 21, 408-415.	2.2	58
75	Vacuum Chamber Pressure Maps of a Hall Thruster Cold-Flow Expansion. Journal of Propulsion and Power, 2004, 20, 1127-1132.	2.2	21
76	Pressure Map of a Facility as a Function of Flow Rate to Study Facility Effects. , 2002, , .		16
77	The Effects of Nude Faraday Probe Design and Vacuum Facility Backpressure on the Measured Ion Current Density Profile of Hall Thruster Plumes. , 2002, , .		40