# 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 | High-power, null-type, inverted pendulum thrust stand. Review of Scientific Instruments, 2009, 80, 055103. | 1.3 | 88 |
| 2 | Recommended Practice for Thrust Measurement in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 539-555. | 2.2 | 83 |
| 3 | Recommended Practice for Use of Faraday Probes in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 582-613. | 2.2 | 80 |
| 4 | 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 |
| 5 | Effect of Backpressure on Ion Current Density Measurements in Hall Thruster Plumes. Journal of Propulsion and Power, 2005, 21, 408-415. | 2.2 | 58 |
| 6 | Effect of secondary electron emission on the plasma sheath. Physics of Plasmas, 2015, 22, . | 1.9 | 52 |
| 7 | Thrust Measurements of a Radio Frequency Plasma Source. Journal of Propulsion and Power, 2013, 29, 520-527. | 2.2 | 50 |
| 8 | The Effects of Nude Faraday Probe Design and Vacuum Facility Backpressure on the Measured Ion Current Density Profile of Hall Thruster Plumes. , 2002, , . | | 40 |
| 9 | Electrical Facility Effects on Hall Thruster Cathode Coupling: Performance and Plume Properties. Journal of Propulsion and Power, 2016, 32, 251-264. | 2.2 | 36 |
| 10 | A review of research in low earth orbit propellant collection. Progress in Aerospace Sciences, 2015, 75, 15-25. | 12.1 | 35 |
| 11 | 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 |
| 12 | Background Flow Model of Hall Thruster Neutral Ingestion. Journal of Propulsion and Power, 2017, 33, 1087-1101. | 2.2 | 31 |
| 13 | Performance Characteristics of a Cluster of 5-kW Laboratory Hall Thrusters. Journal of Propulsion and Power, 2007, 23, 35-43. | 2.2 | 30 |
| 14 | Effect of Anode Temperature on Hall Thruster Performance. Journal of Propulsion and Power, 2010, 26, 1036-1044. | 2.2 | 30 |
| 15 | Review of Plasma-Induced Hall Thruster Erosion. Applied Sciences (Switzerland), 2020, 10, 3775. | 2.5 | 30 |
| 16 | Lifetime and Failure Mechanisms of an Arrayed Carbon Nanotube Field Emission Cathode. IEEE Transactions on Electron Devices, 2010, 57, 3163-3168. | 3.0 | 28 |
| 17 | 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 |
| 18 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Hall Thruster Cluster Operation with a Shared Cathode. Journal of Propulsion and Power, 2007, 23, 528-536. | 2.2 | 26 |
| 20 | 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 |
| 21 | Plasma-Induced Erosion on Ceramic Wall Structures in Hall-Effect Thrusters. Journal of Propulsion and Power, 2014, 30, 690-695. | 2.2 | 23 |
| 22 | Neutral density map of Hall thruster plume expansion in a vacuum chamber. Review of Scientific Instruments, 2005, 76, 053509. | 1.3 | 22 |
| 23 | Vacuum Chamber Pressure Maps of a Hall Thruster Cold-Flow Expansion. Journal of Propulsion and Power, 2004, 20, 1127-1132. | 2.2 | 21 |
| 24 | Plasma ionization by annularly bounded helicon waves. Physics of Plasmas, 2006, 13, 063501. | 1.9 | 19 |
| 25 | Electrical Facility Effects on Hall Current Thrusters: Electron Termination Pathway Manipulation. Journal of Propulsion and Power, 2016, 32, 1365-1377. | 2.2 | 17 |
| 26 | Pressure Map of a Facility as a Function of Flow Rate to Study Facility Effects. , 2002, , . | | 16 |
| 27 | Ion Collection in Hall Thruster Plumes. Journal of Propulsion and Power, 2006, 22, 205-209. | 2.2 | 16 |
| 28 | Power Deposition into the Discharge Channel of a Hall Effect Thruster. Journal of Propulsion and Power, 2014, 30, 209-220. | 2.2 | 15 |
| 29 | 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 |
| 30 | 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 |
| 31 | Plume Characterization of an Ion-Focusing Hall Thruster. Journal of Propulsion and Power, 2012, 28, 1105-1115. | 2.2 | 13 |
| 32 | Operation of an Annular Helicon Plasma Source. Journal of Propulsion and Power, 2009, 25, 1013-1019. | 2.2 | 12 |
| 33 | 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 |
| 34 | rf power system for thrust measurements of a helicon plasma source. Review of Scientific Instruments, 2010, 81, 075106. | 1.3 | 11 |
| 35 | Initial Performance Evaluation of a Gridded Radio Frequency Ion Thruster. Journal of Propulsion and Power, 2014, 30, 645-655. | 2.2 | 11 |
| 36 | Self-consistent, one-dimensional analysis of the Hall effect thruster. Plasma Sources Science and Technology, 2011, 20, 045021. | 3.1 | 10 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Ion production cost of a gridded helicon ion thruster. Plasma Sources Science and Technology, 2013, 22, 055019. | 3.1 | 9 |
| 38 | 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 |
| 39 | Thrust Measurements of a Helicon Plasma Source. , 2011, , . | | 7 |
| 40 | 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 |
| 41 | Plume Structure and Ion Acceleration of a Helicon Plasma Source. IEEE Transactions on Plasma Science, 2015, 43, 1694-1705. | 1.3 | 7 |
| 42 | Recommended Practice for Flow Control and Measurement in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 556-565. | 2.2 | 7 |
| 43 | 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 |
| 44 | Neutral Gas Expansion in a Cylindrical Helicon Discharge Chamber. Journal of Propulsion and Power, 2013, 29, 540-546. | 2.2 | 6 |
| 45 | Effects of wall electrodes on Hall effect thruster plasma. Physics of Plasmas, 2015, 22, . | 1.9 | 6 |
| 46 | Generalized theory of annularly bounded helicon waves. Physics of Plasmas, 2007, 14, 033510. | 1.9 | 5 |
| 47 | Atmospheric Electric Propulsion Mission Performance Tool. Journal of Spacecraft and Rockets, 2014, 51, 931-937. | 1.9 | 5 |
| 48 | Plasma interaction with emmissive surface with Debye-scale grooves. Plasma Sources Science and Technology, 2018, 27, 045004. | 3.1 | 5 |
| 49 | Impact of Propellant Species on Hall Effect Thruster Electrical Facility Effects. Journal of Propulsion and Power, 2018, 34, 600-613. | 2.2 | 5 |
| 50 | Bayesian framework for THz-TDS plasma diagnostics. Optics Express, 2021, 29, 4887. | 3.4 | 5 |
| 51 | Study on Anomalous Electron Diffusion in the Hall Effect Thruster. International Journal of Aeronautical and Space Sciences, 2014, 15, 320-334. | 2.0 | 5 |
| 52 | PHARO—Propellant harvesting of atmospheric resources in orbit. , 2010, , . | | 4 |
| 53 | Investigation of Plasma Material Erosion Under Mechanical Stress. Journal of Propulsion and Power, 2017, 33, 433-447. | 2.2 | 4 |
| 54 | Neutral Ingestion Effects on Plume Properties of a Radio-Frequency Plasma Discharge. Journal of Propulsion and Power, 2018, 34, 58-65. | 2.2 | 4 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Time-Resolved Measurements of Plasma Parameters for Nanosecond-Pulsed Argon Plasmas. IEEE Transactions on Plasma Science, 2020, 48, 1060-1075. | 1.3 | 4 |
| 56 | Formation and Impact of Microcracks in Plasma Erosion of M26 Boron Nitride. Journal of Propulsion and Power, 2021, 37, 59-67. | 2.2 | 4 |
| 57 | Ambient Atmosphere Ion Thruster (AAIT) Proof-of-Concept Modeling. , 2011, , . | | 2 |
| 58 | Technique to Collimate Ions in a Hall-Effect Thruster Discharge Chamber. Journal of Propulsion and Power, 2011, 27, 564-572. | 2.2 | 2 |
| 59 | Velocimetry of cathode particles in a magnetoplasmadynamic thruster discharge plasma. Review of Scientific Instruments, 2015, 86, 073513. | 1.3 | 2 |
| 60 | Hysteresis and mode transitions in plasma sheath collapse due to secondary electron emission. Journal of Applied Physics, 2016, 119, 113305. | 2.5 | 2 |
| 61 | Electrical Facility Effects on Faraday Probe Measurements. Journal of Propulsion and Power, 2018, 34, 267-269. | 2.2 | 2 |
| 62 | Optical Analysis of Nanosecond-Lifetime Plasma Parameters. IEEE Transactions on Plasma Science, 2020, 48, 179-188. | 1.3 | 2 |
| 63 | Field Emission Damage Modes of Carbon Nanotube Spindt Cathode Arrays. Jom, 2020, 72, 544-551. | 1.9 | 2 |
| 64 | Design and Operation of an Annular Helicon Plasma Source. , 2007, , . | | 1 |
| 65 | Operation of an Annular Helicon Plasma Source. , 2008, , . | | 1 |
| 66 | 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 |
| 67 | ELECTROMAGNETICALLY INDUCED DISTORTION OF A FIBRIN MATRIX WITH EMBEDDED MICROPARTICLES. Journal of Mechanics in Medicine and Biology, 2018, 18, 1850016. | 0.7 | 1 |
| 68 | Effects of Ingested vs. Injected Propellant on Radio-Frequency Discharge Plasma Properties. Frontiers in Physics, 2019, 6, . | 2.1 | 1 |
| 69 | 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 |
| 70 | Analytic wave solution with helicon and Trivelpiece-Gould modes in an annular plasma. , 2009, , . | | 0 |
| 71 | Utilization of Residual Helium to Extend Satellite Lifetimes and Mitigate Space Debris. Journal of Propulsion and Power, 2012, 28, 1406-1412. | 2.2 | 0 |
| 72 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | Effects of wall material, wall temperature, and surface roughness on the plasma sheath. , 2014, , . | | 0 |
| 74 | Effects of surface roughness on plasma sheath. , 2014, , . | | 0 |
| 75 | Optimizing fast discharges for high speed time varying plasma antenna using particle in cell simulations. , 2017, , . | | 0 |
| 76 | Numerical Modeling Of High Speed Time Varying Plasma Antenna Using Electromagnetic 2D Particle-In-Cell Simulation. , 2017, , . | | 0 |
| 77 | Background Flow Model Validation with a Six-Kilowatt Hall Effect Thruster. Journal of Propulsion and Power, 2020, 36, 308-311. | 2.2 | 0 |