# Lutz Rastaetter

List of Publications by Year
in descending order

| | | 257101 | 288905 |
|---|---|---|---|
| 83 papers | 1,934 citations | 24 h-index | 40 g-index |
| 86 all docs | 86 docs citations | 86 times ranked | 1696 citing authors |

| # | Article | IF | Citations |
|---|---------|----|-----------|
| 1 | Unifying the validation of ambient solar wind models. Advances in Space Research, 2023, 72, 5275-5286. | 1.2 | 7 |
| 2 | Lower hybrid drift wave motion at a dayside magnetopause x-line with energy conversion dominated by a parallel electric field. Physics of Plasmas, 2022, 29, 012905. | 0.7 | 3 |
| 3 | How a Realistic Magnetosphere Alters the Polarizations of Surface, Fast Magnetosonic, and Alfvén Waves. Journal of Geophysical Research: Space Physics, 2022, 127, . | 0.8 | 10 |
| 4 | How does the magnetosphere go to sleep?. Journal of Atmospheric and Solar-Terrestrial Physics, 2021, 220, 105626. | 0.6 | 1 |
| 5 | Magnetopause ripples going against the flow form azimuthally stationary surface waves. Nature Communications, 2021, 12, 5697. | 5.8 | 17 |
| 6 | Statistical Error Analysis on White-Light Filter Ratio Experiments to Measure Electron Parameters. Solar Physics, 2021, 296, 1. | 1.0 | 2 |
| 7 | Formation of the Low‐Energy "Finger" Ion Spectral Structure Near the Inner Edge of the Plasma Sheet. Geophysical Research Letters, 2020, 47, e2020GL089875. | 1.5 | 6 |
| 8 | The STONE Curve: A ROC‐Derived Model Performance Assessment Tool. Earth and Space Science, 2020, 7, e2020EA001106. | 1.1 | 4 |
| 9 | Synoptic Measurements of Electron Temperature and Speed in the Solar Corona with Next Generation White-Light Coronagraph. Solar Physics, 2020, 295, 1. | 1.0 | 3 |
| 10 | Exploring the Influence of Lateral Conductivity Contrasts on the Storm Time Behavior of the Ground Electric Field in the Eastern United States. Space Weather, 2020, 18, e2019SW002216. | 1.3 | 14 |
| 11 | Measuring Electron Temperature Using a Linear Polarizer Versus a Polarization Camera. Solar Physics, 2019, 294, 1. | 1.0 | 5 |
| 12 | Dependence of DOLP on Coronal Electron Temperature, Speed, and Structure. Solar Physics, 2019, 294, 1. | 1.0 | 6 |
| 13 | Comprehensive Assessment of Models and Events Using Library Tools (CAMEL) Framework: Time Series Comparisons. Space Weather, 2019, 17, 845-860. | 1.3 | 9 |
| 14 | Initial Results From the GEM Challenge on the Spacecraft Surface Charging Environment. Space Weather, 2019, 17, 299-312. | 1.3 | 17 |
| 15 | Real‐Time SWMF at CCMC: Assessing the Dst Output From Continuous Operational Simulations. Space Weather, 2018, 16, 1583-1603. | 1.3 | 32 |
| 16 | Data mining for vortices on the Earth's magnetosphere – algorithm application for detection and analysis. Annales Geophysicae, 2018, 36, 1117-1129. | 0.6 | 1 |
| 17 | Validation of Ionospheric Specifications During Geomagnetic Storms: TEC and foF2 During the 2013 March Storm Event. Space Weather, 2018, 16, 1686-1701. | 1.3 | 22 |
| 18 | Predicting Global Ground Geoelectric Field With Coupled Geospace and Three‐Dimensional Geomagnetic Induction Models. Space Weather, 2018, 16, 1028-1041. | 1.3 | 24 |

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|---|---------|-----|-----------|
| 19 | Investigating Upper Atmospheric Joule Heating Using Cross‑Combination of Data for Two Moderate Substorm Cases. Space Weather, 2018, 16, 987-1012. | 1.3 | 14 |
| 20 | Regional 3‑D Modeling of Ground Electromagnetic Field Due To Realistic Geomagnetic Disturbances. Space Weather, 2018, 16, 476-500. | 1.3 | 31 |
| 21 | Evaluating Uncertainties in Coronal Electron Temperature and Radial Speed Measurements Using a Simulation of the Bastille Day Eruption. Solar Physics, 2018, 293, 1. | 1.0 | 8 |
| 22 | Nowcasting and forecasting of the magnetopause and bow shock—A status update. Space Weather, 2017, 15, 36-43. | 1.3 | 5 |
| 23 | Exploring predictive performance: A reanalysis of the geospace model transition challenge. Space Weather, 2017, 15, 192-203. | 1.3 | 33 |
| 24 | Comparison of predictive estimates of high‑latitude electrodynamics with observations of global‑scale Birkeland currents. Space Weather, 2017, 15, 352-373. | 1.3 | 35 |
| 25 | The substorm cycle as reproduced by global MHD models. Space Weather, 2017, 15, 131-149. | 1.3 | 17 |
| 26 | CEDAR‑GEM Challenge for Systematic Assessment of Ionosphere/Thermosphere Models in Predicting TEC During the 2006 December Storm Event. Space Weather, 2017, 15, 1238-1256. | 1.3 | 17 |
| 27 | CCMC Modeling of Magnetic Reconnection in Electron Diffusion Region Events. Proceedings of the International Astronomical Union, 2017, 13, 142-146. | 0.0 | 1 |
| 28 | Community‑wide validation of geospace model local K‑index predictions to support model transition to operations. Space Weather, 2016, 14, 469-480. | 1.3 | 27 |
| 29 | GEM‑CEDAR challenge: Poynting flux at DMSP and modeled Joule heat. Space Weather, 2016, 14, 113-135. | 1.3 | 20 |
| 30 | Rating global magnetosphere model simulations through statistical data‑model comparisons. Space Weather, 2016, 14, 819-834. | 1.3 | 17 |
| 31 | Assessing the performance of community‑available global MHD models using key system parameters and empirical relationships. Space Weather, 2015, 13, 868-884. | 1.3 | 40 |
| 32 | Community-wide model validation study for systematic assessment of ionosphere models. , 2015, , . | | 0 |
| 33 | Ensemble Modeling of CMEs Using the WSA—ENLIL+Cone Model. Solar Physics, 2015, 290, 1775-1814. | 1.0 | 170 |
| 34 | Predicting the time derivative of local magnetic perturbations. Journal of Geophysical Research: Space Physics, 2014, 119, 310-321. | 0.8 | 27 |
| 35 | Evaluating the Uncertainties in the Electron Temperature and Radial Speed Measurements Using White Light Corona Eclipse Observations. Solar Physics, 2014, 289, 2021-2039. | 1.0 | 9 |
| 36 | Anomalous dynamics of the extremely compressed magnetosphere during 21 January 2005 magnetic storm. Journal of Geophysical Research: Space Physics, 2014, 119, 877-896. | 0.8 | 23 |

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| 37 | Solar filament impact on 21 January 2005: Geospace consequences. Journal of Geophysical Research: Space Physics, 2014, 119, 5401-5448. | 0.8 | 20 |
| 38 | CalcDeltaB: An efficient postprocessing tool to calculate ground-level magnetic perturbations from global magnetosphere simulations. Space Weather, 2014, 12, 553-565. | 1.3 | 29 |
| 39 | The Hohmann–Parker effect measured by the Mars Science Laboratory on the transfer from Earth to Mars: Consequences and opportunities. Planetary and Space Science, 2013, 89, 127-139. | 0.9 | 20 |
| 40 | Geospace environment modeling 2008–2009 challenge: $D_{st}$ index. Space Weather, 2013, 11, 187-205. | 1.3 | 69 |
| 41 | Alfvén Mach number and IMF clock angle dependencies of sunward flow channels in the magnetosphere. Geophysical Research Letters, 2013, 40, 1257-1262. | 1.5 | 4 |
| 42 | Comparison between vortices created and evolving during fixed and dynamic solar wind conditions. Annales Geophysicae, 2013, 31, 1463-1483. | 0.6 | 5 |
| 43 | Forecasting propagation and evolution of CMEs in an operational setting: What has been learned. Space Weather, 2013, 11, 557-574. | 1.3 | 21 |
| 44 | Community-wide validation of geospace model ground magnetic field perturbation predictions to support model transition to operations. Space Weather, 2013, 11, 369-385. | 1.3 | 136 |
| 45 | On the performance of global magnetohydrodynamic models in the Earth's magnetosphere. Space Weather, 2013, 11, 313-326. | 1.3 | 28 |
| 46 | CEDAR Electrodynamics Thermosphere Ionosphere (ETI) Challenge for systematic assessment of ionosphere/thermosphere models: Electron density, neutral density, NmF2, and hmF2 using space based observations. Space Weather, 2012, 10, . | 1.3 | 65 |
| 47 | Scientific visualization to study Flux Transfer Events at the Community Coordinated Modeling Center. Advances in Space Research, 2012, 49, 1623-1632. | 1.2 | 11 |
| 48 | Geospace Environment Modeling 2008–2009 Challenge: Ground magnetic field perturbations. Space Weather, 2011, 9, . | 1.3 | 71 |
| 49 | Geospace Environment Modeling 2008–2009 Challenge: Geosynchronous magnetic field. Space Weather, 2011, 9, . | 1.3 | 30 |
| 50 | Propagation of a sudden impulse through the magnetosphere initiating magnetospheric Pc5 pulsations. Journal of Geophysical Research, 2011, 116, n/a-n/a. | 3.3 | 26 |
| 51 | CEDAR Electrodynamics Thermosphere Ionosphere (ETI) Challenge for systematic assessment of ionosphere/thermosphere models: NmF2, hmF2, and vertical drift using ground-based observations. Space Weather, 2011, 9, . | 1.3 | 71 |
| 52 | Comparison of the observed dependence of large-scale Birkeland currents on solar wind parameters with that obtained from global simulations. Annales Geophysicae, 2011, 29, 1809-1826. | 0.6 | 21 |
| 53 | Systematic evaluation of ground and geostationary magnetic field predictions generated by global magnetohydrodynamic models. Journal of Geophysical Research, 2010, 115, . | 3.3 | 30 |
| 54 | Dynamics of ring current and electric fields in the inner magnetosphere during disturbed periods: CRCM–BATS-R-US coupled model. Journal of Geophysical Research, 2010, 115, . | 3.3 | 42 |

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| 55 | Reply to comment by S. Haaland et al. on "Minimum variance analysis-based propagation of the solar wind observations: Application to real-time global magnetohydrodynamic simulations". Space Weather, 2010, 8, n/a-n/a. | 1.3 | 0 |
| 56 | Cavities of weak magnetic field strength in the wake of FTEs: Results from global magnetospheric MHD simulations. Geophysical Research Letters, 2009, 36, . | 1.5 | 11 |
| 57 | Minimum variance analysis–based propagation of the solar wind observations: Application to real–time global magnetohydrodynamic simulations. Space Weather, 2009, 7, . | 1.3 | 14 |
| 58 | Ionosphere–thermosphere models at the Community Coordinated Modeling Center. Radio Science, 2009, 44, . | 0.8 | 11 |
| 59 | Validation of the coronal mass ejection predictions at the Earth orbit estimated by ENLIL heliosphere cone model. Space Weather, 2009, 7, . | 1.3 | 73 |
| 60 | Role of periodic loading–unloading in the magnetotail versus interplanetary magnetic field $B_z$ flipping in the ring current buildup. Journal of Geophysical Research, 2008, 113, . | 3.3 | 1 |
| 61 | Comparison of local energy conversion estimates from Cluster with global MHD simulations. Geophysical Research Letters, 2008, 35, . | 1.5 | 16 |
| 62 | Anomalous Flow Deflection at Earth's Low-Alfvén-Mach-Number Bow Shock. Physical Review Letters, 2008, 101, 065003. | 2.9 | 14 |
| 63 | Buildup of the ring current during periodic loading–unloading cycles in the magnetotail driven by steady southward interplanetary magnetic field. Journal of Geophysical Research, 2007, 112, . | 3.3 | 12 |
| 64 | Multiscale modeling of magnetospheric reconnection. Journal of Geophysical Research, 2007, 112, . | 3.3 | 72 |
| 65 | Metrics analysis of the coupled Block Adaptive–Tree Solar Wind Roe–Type Upwind Scheme and Fok ring current model performance. Space Weather, 2007, 5, . | 1.3 | 5 |
| 66 | First-principles modeling of geomagnetically induced electromagnetic fields and currents from upstream solar wind to the surface of the Earth. Annales Geophysicae, 2007, 25, 881-893. | 0.6 | 39 |
| 67 | Using global magnetospheric models for simulation and interpretation of Swarm external field measurements. Earth, Planets and Space, 2006, 58, 439-449. | 0.9 | 19 |
| 68 | Modeling and analysis of solar wind generated contributions to the near-Earth magnetic field. Earth, Planets and Space, 2006, 58, 451-461. | 0.9 | 10 |
| 69 | Polar cap size during 14–16 July 2000 (Bastille Day) solar coronal mass ejection event: MHD modeling and satellite imager observations. Journal of Geophysical Research, 2005, 110, . | 3.3 | 11 |
| 70 | Effect of multiple substorms on the buildup of the ring current. Journal of Geophysical Research, 2005, 110, . | 3.3 | 9 |
| 71 | Field-aligned currents during northward interplanetary magnetic field: Morphology and causes. Journal of Geophysical Research, 2005, 110, . | 3.3 | 45 |
| 72 | Magnetosheath variations during the storm main phase on 20 November 2003: Evidence for solar wind density control of energy transfer to the magnetosphere. Geophysical Research Letters, 2005, 32, . | 1.5 | 20 |

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| 73 | A new look at driven magnetic reconnection at the terrestrial subsolar magnetopause. Journal of Geophysical Research, 2004, 109, . | 3.3 | 36 |
| 74 | Magnetic field topology during July 14-16 2000 (Bastille Day) solar CME event. Geophysical Research Letters, 2002, 29, 37-1-37-4. | 1.5 | 6 |
| 75 | Global MHD modeling of the impact of a solar wind pressure change. Journal of Geophysical Research, 2002, 107, SMP 21-1. | 3.3 | 38 |
| 76 | Hall-MHD modeling of near-Earth magnetotail current sheet thinning and evolution. Journal of Geophysical Research, 1999, 104, 12301-12311. | 3.3 | 18 |
| 77 | Patchy reconnection and evolution of multiple plasmoids in the Earth's magnetotail: Effects on near-Earth current system. Journal of Geophysical Research, 1999, 104, 25011-25020. | 3.3 | 5 |
| 78 | Magnetized Accreting Stars: Studies of the Inner Accretion Disk Edge by a Magnetohydrodynamical Approach. I. Construction and Analysis of Magnetopause Equilibria. Astrophysical Journal, 1999, 519, 658-666. | 1.6 | 3 |
| 79 | Magnetized Accreting Stars: Studies of the Inner Accretion€Disk Edge by a Magnetohydrodynamic Approach. II. Ideal Instabilities of the Inner Disk Edge. Astrophysical Journal, 1999, 524, 361-372. | 1.6 | 13 |
| 80 | Simulations of non-stationary magnetic reconnection in Lie-transported electro-magnetic fields. Physica Scripta, 1998, T74, 40-45. | 1.2 | 2 |
| 81 | The magnetic structure of B‰0-reconnection. Physica Scripta, 1998, T74, 34-39. | 1.2 | 21 |
| 82 | The role of helicity in the reconnection process. Advances in Space Research, 1997, 19, 1789-1792. | 1.2 | 11 |
| 83 | On current sheets in two€dimensional ideal magnetohydrodynamics caused by pressure perturbations. Physics of Plasmas, 1994, 1, 3414-3424. | 0.7 | 10 |