

COSPAR Outstanding Paper Award for Young Scientists Papers published in Advances in Space Research in 2023

EARTH MAGNETOSPHERE AND UPPER ATMOSPHERE

AISR-D-22-01037 Validation of equatorial electrojet derived from Swarm observations using ground based magnetometers

Advances in Space Research, Volume 71, Issue 8, 15 April 2023, Pages 3346-3356

Daphine Ayebare, Geoffrey Andima, Patrick Mungufeni et al.

<https://doi.org/10.1016/j.asr.2022.12.002>

AISR-D-22-01268 Comparison of relativistic electron flux at Low Earth Orbit (LEO) and Electric Orbit Raising (EOR) from the CARMEN Missions

Advances in Space Research, Volume 71, Issue 10, 15 May 2023, Pages 4401-4409

François Ginisty, Frédéric Wrobel, Robert Ecoffet et al.

<https://doi.org/10.1016/j.asr.2023.01.002>

AISR-D-22-01290 MMS observation of cold electrons in the magnetotail reconnection separatrix region

Advances in Space Research, Volume 71, Issue 12, 15 June 2023, Pages 5208-5217

Z.Z. Chen, J. Yu, C.M. Liu et al.

<https://doi.org/10.1016/j.asr.2023.02.038>

AISR-D-22-01282 Performance evaluation of IRI, IRI Plas and SAMI2 during the consecutive prolonged solar minimum of cycles 23 and 24 around 100°E

Advances in Space Research, Volume 72, Issue 5, 1 September 2023, Pages 1665-1687

Angkita Hazarika, Kalyan Bhuyan, Bitap R. Kalita et al.

<https://doi.org/10.1016/j.asr.2023.04.048>

EARTH SCIENCES

AISR-D-22-00191 Snow depth retrieval by using robust estimation algorithm to perform Multi-SNR and Multi-system fusion in GNSS-IR

Advances in Space Research, Volume 71, Issue 3, 1 February 2023, Pages 1525-1542

Naiquan Zheng, Hongzhou Chai, Lingqiu Chen et al.

<https://doi.org/10.1016/j.asr.2022.10.014>

AISR-D-22-01388 Characterizing recurrent flood hazards in the Himalayan foothill region through data-driven modelling

Advances in Space Research, Volume 71, Issue 12, 15 June 2023, Pages 5311-5326

Md Hasanuzzaman, Pravat Kumar Shit, Biswajit Bera et al.

<https://doi.org/10.1016/j.asr.2023.02.028>

AISR-D-22-00851 Performance Assessment of RTPPP Positioning with SSR Corrections and PPP-AR Positioning with FCB for Multi-GNSS from MADOCA Products

Advances in Space Research, Volume 71, Issue 6, 15 March 2023, Pages 2924-2937

Deying Yu, Bing Ji, Yi Liu et al.
<https://doi.org/10.1016/j.asr.2022.11.039>

AISR-D-22-01463 Beidou-3 precise point positioning ambiguity resolution with B1I/B3I/B1C/B2a/B2b phase observable-specific signal bias and satellite B1I/B3I legacy clock
Advances in Space Research, Volume 72, Issue 2, 15 July 2023, Pages 488-502
Tianjun Liu, Hua Chen, Chuanfeng Song et al.
<https://doi.org/10.1016/j.asr.2023.03.041>

AISR-D-22-01245 BDS-3 new signals Observable-specific phase biases Estimation and PPP Ambiguity Resolution
Advances in Space Research, Volume 72, Issue 6, 15 September 2023, Pages 2156-2169
Yangfei Hou, Hu Wang, Jiexian Wang et al.
<https://doi.org/10.1016/j.asr.2023.05.023>

AISR-D-22-00652 Quantitative contribution of climate change and anthropological activities to vegetation carbon storage in the Dongting Lake basin in the last two decades
Advances in Space Research, Volume 71, Issue 1, 1 January 2023, Pages 845-868
Shuaiyang Qi, Shudan Chen, Xiangren Long et al.
<https://doi.org/10.1016/j.asr.2022.07.068>

AISR-D-22-00998 Estimation of PM2.5 concentrations with high spatiotemporal resolution in Beijing using the ERA5 dataset and machine learning models
Advances in Space Research, Volume 71, Issue 8, 15 April 2023, Pages 3150-3165
Zhihao Wang, Peng Chen, Rong Wang et al.
<https://doi.org/10.1016/j.asr.2022.12.016>

AISR-D-22-00824 Exploration of Groundwater Potential Zones Mapping for Hard Rock Region in the Jakham River Basin using Geospatial Techniques and aquifer parameters
Advances in Space Research, Volume 71, Issue 6, 15 March 2023, Pages 2892-2908
Vinay Kumar Gautam, Chaitanya B. Pande, Mahesh Kothari et al.
<https://doi.org/10.1016/j.asr.2022.11.022>

ASTRODYNAMICS AND SPACE DEBRIS

AISR-D-22-01131 Advanced ensemble modeling method for space object state prediction accounting for uncertainty in atmospheric density
Advances in Space Research, Volume 71, Issue 6, 15 March 2023, Pages 2535-2549
Smriti Nandan Paul, Richard J. Licata, Piyush M. Mehta
<https://doi.org/10.1016/j.asr.2022.12.056>

AISR-D-22-01085 Space debris spectroscopy: specular reflections at LEO regime
Advances in Space Research, Volume 71, Issue 8, 15 April 2023, Pages 3249-3261
Danica Žilková, Jiří Šilha, Pavol Matlovič et al.
<https://doi.org/10.1016/j.asr.2022.12.001>

AISR-D-22-01336 Probabilistic multi-dimensional debris cloud propagation subject to non-linear dynamics
Advances in Space Research, Volume 72, Issue 2, 15 July 2023, Pages 129-151
Lorenzo Giudici, Mirko Trisolini, Camilla Colombo

<https://doi.org/10.1016/j.asr.2023.04.030>

AISR-D-23-00085 Effect of the nature of uncertainty on the optimization of collision avoidance maneuvers

Advances in Space Research, Volume 72, Issue 10, 15 November 2023, Pages 4132-4146

Shrouti Dutta, Arun K. Misra

<https://doi.org/10.1016/j.asr.2023.08.012>

AISR-D-22-00471 Relative motion guidance for near-rectilinear lunar orbits with path constraints via actor-critic reinforcement learning

Advances in Space Research, Volume 71, Issue 1, 1 January 2023, Pages 316-335

Andrea Scorsoglio, Roberto Furfaro Richard Linares et al.

<https://doi.org/10.1016/j.asr.2022.08.002>

AISR-D-22-00757 Design and Optimization of Stable Initial Heliocentric Formation on the Example of LISA

Advances in Space Research, Volume 71, Issue 1, 1 January 2023, Pages 420-438

Xuan Xie, Fanghua Jiang, Junfeng Li

<https://doi.org/10.1016/j.asr.2022.08.084>

AISR-D-22-00407 An optimized strategy for inter-satellite links assignments in GNSS

Advances in Space Research, Volume 71, Issue 1, 1 January 2023, Pages 720-730

Bingbing Xu, Kai Han, Qianyi Ren et al.

<https://doi.org/10.1016/j.asr.2022.08.082>

AISR-D-22-00977 Vision-based navigation in low Earth orbit - using the stars and horizon as an alternative PNT

Advances in Space Research, Volume 71, Issue 11, 1 June 2023, Pages 4802-4813

Joshua Critchley-Marrows, Daniele Mortari

<https://doi.org/10.1016/j.asr.2023.01.047>

SPACE TECHNOLOGY, POLICY AND EDUCATION

AISR-D-22-00779 Attitude control actuator scaling laws for orbiting solar reflectors

Advances in Space Research, Volume 71, Issue 1, 1 January 2023, Pages 604-623

Andrea Viale, Colin R. McInnes

<https://doi.org/10.1016/j.asr.2022.10.015>

AISR-D-23-00133 Learning-Based Spacecraft Reactive Anti-Hostile-Rendezvous Maneuver Control in Complex Space Environments

Advances in Space Research, Volume 72, Issue 10, 15 November 2023, Pages 4531-4552

Jianfa Wu, Chunling Wei, Haibo Zhang et al.

<https://doi.org/10.1016/j.asr.2023.08.043>

AISR-D-22-01059 Attitude Control Experiment of a Spinning Spacecraft Using Only Magnetic Torquers

Advances in Space Research, Volume 71, Issue 12, 15 June 2023, Pages 5386-5399

Yasuhiro Shoji, Satoshi Satoh et al.

<https://doi.org/10.1016/j.asr.2023.02.018>

AISR-D-22-00815 Autonomous trajectory planning for multi-stage launch vehicles using mass-projection sequential penalized convex relaxation method
Advances in Space Research, Volume 71, Issue 11, 1 June 2023, Pages 4467-4484
Yue Dong, Jizhong Liu, Haibin Shang et al.
<https://doi.org/10.1016/j.asr.2023.01.011>

AISR-D-22-01154 Multilayer Nanoparticle-Polymer Metamaterial for Radiative Cooling of the Stratospheric Airship
Advances in Space Research, Volume 72, Issue 2, 15 July 2023, Pages 541-551
Chenrui F, Ming Zhu Dongxu Liu et al.
<https://doi.org/10.1016/j.asr.2023.03.004>

AISR-D-22-00244 Nonlinear model order reduction and vibration control of a membrane antenna structure
Advances in Space Research, Volume 71, Issue 12, 15 June 2023, Pages 5369-5385
Xiang Liu, Liangliang Lv, Guoping Cai
<https://doi.org/10.1016/j.asr.2023.02.017>

SOLAR SYSTEM BODIES

AISR-D-22-01260 Geomechanical Properties of Lunar Regolith Simulants LHS-1 and LMS-1
Advances in Space Research, Volume 71, Issue 12, 15 June 2023, Pages 5400-5412
Jared M. Long-Fox, Zoe A. Landsman, Parks B. Easter et al.
<https://doi.org/10.1016/j.asr.2023.02.034>

AISR-D-23-00183 A new window function for the spectral analysis of effect of celestial body on Taiji mission below 0.1 mHz
Advances in Space Research, Volume 72, Issue 9, 1 November 2023, Pages 4082-4092
Xiaoqing Han, Wenlin Tang, Xiaodong Peng et al.
<https://doi.org/10.1016/j.asr.2023.07.017>

SPECIAL ISSUES

AISR-D-22-00523 Quantifying errors in 3D CME parameters derived from synthetic data using white-light reconstruction techniques
Advances in Space Research, Volume 72, Issue 12, 15 December 2023, Pages 5243-5262
Christine Verbeke, M. Leila Mays, Christina Kay et al.
<https://doi.org/10.1016/j.asr.2022.08.056>

AISR-D-22-00044 Terminal Sliding-mode Control for Input-constrained Free-float Space Manipulator via Learning-based Adaptive Uncertainty Rejection
Advances in Space Research, Volume 71, Issue 9, 1 May 2023, Pages 3696-3711
Meiling Hu, Xuebo Yang, Hanlin Dong
<https://doi.org/10.1016/j.asr.2022.06.043>

AISR-D-22-00294 Post-Capture Detumble Trajectory Stabilization for Robotic Active Debris Removal
Advances in Space Research, Volume 72, Issue 7, 1 October 2023, Pages 2845-2859
Shubham Vyas, Lasse Maywald, Shivesh Kumar

<https://doi.org/10.1016/j.asr.2022.09.033>

AISR-D-22-00626 Benchmarking deep learning approaches for all-vs-all conjunction screening

Advances in Space Research, Volume 72, Issue 7, 1 October 2023, Pages 2660-2675

Emma Stevenson, Victor Rodriguez-Fernandez, Hodei Urrutxua et al.

<https://doi.org/10.1016/j.asr.2023.01.036>

AISR-D-22-00166 Python in Heliophysics Community (PyHC): current status and future outlook

Advances in Space Research, Volume 72, Issue 12, 15 December 2023, Pages 5636-5649

Julie Barnum, Arnaud Masson, Reinhard H.W. Friedel

<https://doi.org/10.1016/j.asr.2022.10.006>