



COSPAR Outstanding Paper Award for Young Scientists - Papers Published in *Advances in Space Research* in 2025

Category	Title	Vol	Issue	Date	Pages (from)	Pages (to)	Authors	DOI
Earth Sciences	Study on the Driving Process of Land Surface Temperature by Multiple Driving Factor Combinations in a Karst Watershed	75	6	15-Mar-2025	4640	4663	Jiandong Hao, Hong Cai, Xianyun Zhang, Lei Zhang, Xingji Li, Yibo Chen	https://doi.org/10.1016/j.asr.2025.01.010
Earth Sciences	Toward the Optimal Spatial Resolution Ratio for Fusion of UAV and Sentinel-2 Satellite Imageries Using Metaheuristic Optimization	75	7	1-Apr-2025	5254	5282	Ahmad Toosi, Farhad Samadzadegan, Farzaneh Dadrass Javan	https://doi.org/10.1016/j.asr.2025.02.019
Earth Sciences	River Salinity Mapping through Machine Learning and Statistical Modeling using Landsat 8 OLI Imagery	75	10	15-May-2025	6981	7002	Mohsen Ansari, Anders Knudby, Saeid Homayouni	https://doi.org/10.1016/j.asr.2025.03.037
Earth Sciences	Regional daily sea level maps from Multi-mission Altimetry using Space-time Window Kriging	75	11	1-Jun-2025	7769	7786	Marie-Christin Juhl, Marcello Passaro, Denise Dettmering	https://doi.org/10.1016/j.asr.2025.04.014
Earth Sciences	Slope unit-based comprehensive geohazard susceptibility assessment: SHAP interpretability and local InSAR deformation analysis	75	11	1-Jun-2025	7863	7888	Peng Wang, Hongwei Deng, Jielin Li, Zhen Jiang, Guanglin Tian, Yao Liu	https://doi.org/10.1016/j.asr.2025.03.034
Earth Sciences	Low-cost miniaturized GNSS antenna for landslide monitoring and application in Baige landslide(western China)	76	1	1-Jul-2025	128	142	Dongxu Li, Yuan Du, Qin Zhang, Guanwen Huang, Li Wang, Zhengwei Bai, Yang Li, Jing Zhang	https://doi.org/10.1016/j.asr.2025.04.046
Earth Sciences	Spectral Mamba Enhanced Neighborhood Attention Network for Aerial Hyperspectral Image Classification	76	2	15-Jul-2025	633	649	Chuanzhi Wang, Mingyun Lv, Jun Huang, Yongmei Wu, Ruiru Qin	https://doi.org/10.1016/j.asr.2025.04.081
Earth Sciences	Assessment of Tianmu-1 multi-GNSS-R global soil moisture products	76	3	1-Aug-2025	1476	1491	Jinsheng Tu, Xiufeng He, Xueyong Xu, Minfeng Song, Xinzhe Xu	https://doi.org/10.1016/j.asr.2025.05.066
Earth Sciences	Deep learning-based modeling and prediction of GNSS time series: A comparative analysis of adaptive optimization algorithms	76	4	15-Aug-2025	2086	2103	Mehmet Emin Tabar, Yasemin Sisman	https://doi.org/10.1016/j.asr.2025.06.018
Earth Sciences	Mapping of small scale surface water in Denmark - using deep learning, fusing high resolution geo data and Sentinel-1 SAR	76	5	1-Sep-2025	2578	2593	Simon J. Köhn, Ana C.M. Fernandes, Casper S. Fibæk, Karina Nielsen	https://doi.org/10.1016/j.asr.2025.07.007
Earth Sciences	Spatial disaggregation of coarse-scaled gridded rainfall data using open-source earth observations in a semi-arid region for water resources management	76	5	1-Sep-2025	2643	2661	Kunal Karan, Dharmaveer Singh, Amzad Hussain Laskar, Jacob Noble, Nikhil Kumar, Debrupa Chatterjee, John P. Wilson	https://doi.org/10.1016/j.asr.2025.06.027
Earth Sciences	Wetland siege due to unrestricted urbanization in a global south megacity- proposing a MSDI framework for wetland management	76	8	15-Oct-2025	4061	4075	Arijit Das, Suman Singha, Manob Das	https://doi.org/10.1016/j.asr.2025.07.042
Earth Sciences	A Discrete Grey Wolf Optimizer for the Satellite Image Segmentation Problem	76	10	15-Nov-2025	6151	6188	Zehong Cao, Ankang He, Kaiping Luo	https://doi.org/10.1016/j.asr.2025.08.074
Earth Sciences	Decoding Spatial Non-Stationarity of Urban Heat Island in a Million-Plus Indian City: An Integrated Analysis Harnessing GWR, MGWR, and Geodetector Models for Urban Climate Resilience	77	1	1-Jan-2026	491	525	Sharmistha Mondal, Kapil Kumar Gavsker, Bhaskar Mandal	https://doi.org/10.1016/j.asr.2025.10.012
Earth Sciences	Automatic extraction and reconstruction of high-voltage power corridor from airborne LiDAR via transmission direction and pylon localization	77	2	15-Jan-2025	1795	1814	Yutao Zhang, Sa Li, Dandan Liu, Te Li, Juntao Yang	https://doi.org/10.1016/j.asr.2025.10.111
Earth Sciences	VOH-Net: Vision-Optimized Hybrid Network for Deep Learning-Based Phase Unwrapping	77	3	1-Feb-2026	3220	3238	Saoussen Djeddi, Tarek Bentahar, Riad Saidi, Yacine Belhocine	https://doi.org/10.1016/j.asr.2025.11.077

Earth Sciences	Multi-Parameter GNSS Monitoring for Expansive Soil Hazards: A Case Study from Coastal Texas	77	3	1-Feb-2026	3103	3118	Xiongchuan Chen, Shuangcheng Zhang, Yong Fang, Qingtao Zhang, Lidu Zhao, Peng An, Ning Liu, Qi Liu, Ningkang An, Jun Li, Zhilei Ye	https://doi.org/10.1016/j.asr.2025.11.052
Astrodynamics and Space Debris	Investigation of the space weathering rate of the geostationary satellites' surface materials using BVRI photometry	75	10	15-May-2025	7365	7376	Matej Zigo, Jiří Šilha, Katarína Sabolová, Tomáš Hrobár	https://doi.org/10.1016/j.asr.2025.02.048
Astrodynamics and Space Debris	Identification of Two Collided Objects from In-situ Debris Measurements	75	12	15-Jun-2025	8721	8727	Kaito Miyoshi, Yasuhiro Yoshimura, Toshiya Hanada	https://doi.org/10.1016/j.asr.2025.03.075
Astrodynamics and Space Debris	Atmospheric drag uncertainty quantification for orbit determination and propagation via Stochastic Consider Parameters	75	12	15-Jun-2025	8667	8686	Alejandro Cano, Manuel Sanjurjo-Rivo, Joaquín Míguez, Alejandro Pastor, Diego Escobar	https://doi.org/10.1016/j.asr.2025.04.018
Astrodynamics and Space Debris	Reinforcement Learning-based Station Keeping using Relative Orbital Elements	76	2	15-Jul-2025	750	763	Nektarios Aristeidis Tafanidis, Avijit Banerjee, Sumeet Satpute, George Nikolakopoulos	https://doi.org/10.1016/j.asr.2025.04.082
Astrodynamics and Space Debris	Deep Learning-enhanced Koopman Operator Linearization with LQR Control for Satellite Attitude Regulation	76	4	14-Aug-2025	2445	2471	Zixuan Zhou, Yadong Chen, Peng Cheng, Huan Cheng	https://doi.org/10.1016/j.asr.2025.06.005
Astrodynamics and Space Debris	A CCD/CMOS telescope digital twin for Space Situational Awareness	76	5	1-Sep-2025	3074	3097	Liam Robinson, Carolin Frueh	https://doi.org/10.1016/j.asr.2025.06.053
Astrodynamics and Space Debris	Origin identification of breakup from in-situ sub-millimeter-sized debris measurements	76	10	15-Nov-2025	6347	6354	Keijiro Hattori, Yasuhiro Yoshimura, Toshiya Hanada	https://doi.org/10.1016/j.asr.2025.08.033
Astrodynamics and Space Debris	Orbit determination of GNSS-denied LEO satellites using single inter-satellite link measurements	76	10	15-Nov-2025	6330	6346	Xiang Chen, Chengpan Tang, Wujiao Dai, Shanshi Zhou, Lin Pan, Jiarong Zhu, Kai Li, Ziqiang Li	https://doi.org/10.1016/j.asr.2025.08.030
Astrodynamics and Space Debris	Fast Optimal Impulsive Methods for Collision Avoidance Maneuver Based on Reachable Domain	77	2	15-Jan-2026	2043	2060	Jian Li, Gang Zhang	https://doi.org/10.1016/j.asr.2025.10.071
Astrodynamics and Space Debris	Exploration of direct transfer opportunities and loitering strategies for lunar surface access	77	2	15-Jan-2026	2165	2182	Mackenzie E. Mangette, Roshan T. Eapen	https://doi.org/10.1016/j.asr.2025.11.007
Space Technology, Policy, and Educ.	Design of Feedback Control for Field Emission Thrusters with Wide Thrust Range and Fast Response	75	7	1-Apr-2025	5669	5680	Yingcui Gou, Aiping Pang, Hui Liu, Xuan Wang	https://doi.org/10.1016/j.asr.2025.01.032
Space Technology, Policy, and Educ.	Flexible satellite with honeycomb panels' boundary control by considering actuator failure	75	7	1-Apr-2025	5656	5668	Shokrollah Ameli, Maryam Malekzadeh, Mahdi Mortazavi	https://doi.org/10.1016/j.asr.2025.01.031
Space Technology, Policy, and Educ.	Design of impact ultrasonic penetrators and optimization of impact efficiency	75	8	15-Apr-2025	6070	6088	Yinchao Wang, Ziming Yu, Zihao Yin, Weiwei Zhang, Lin Zu, Guanghong Tao, Suyang Yu	https://doi.org/10.1016/j.asr.2025.02.008
Space Technology, Policy, and Educ.	Simulation and validation of space deployable membrane structures using the absolute nodal coordinate formulation	76	4	14-Aug-2025	2104	2122	Zhuoran Huang, Haoming Li, Zhiming Deng, Cheng Wei	https://doi.org/10.1016/j.asr.2025.06.030
Space Technology, Policy, and Educ.	Capability of Lunar Regolith with Hydrogenous Materials as Shielding Material against GCR and SPE on the Surface of Moon studied using OLTARIS	76	6	1-Sep-2025	2951	2959	Lasany Arfin Kunja, Eojin Kim, Yu Yi, Jongdae Sohn, Jongil Jung	https://doi.org/10.1016/j.asr.2025.06.059
Space Technology, Policy, and Educ.	Analysis of Multi-Node Flexible Small Body Lander: Bounce Suppression and Active control	76	9	1-Nov-2025	5471	5488	Jingxuan Chai, Jie Mei, Youmin Gong, Xinyu Wu, Guangfu Ma, Weiren Wu	https://doi.org/10.1016/j.asr.2025.08.008
Space Technology, Policy, and Educ.	DCP-CNN-based non-cooperative spacecraft non-contact attitude estimation	77	2	15-Jan-2026	2411	2418	Kairui Zhong, Xiaoyu Lang, Kewei Zhu, Zhen Chen, Xiangdong Liu	https://doi.org/10.1016/j.asr.2025.10.104
Space Technology, Policy, and Educ.	Robust Station-Keeping for Halo Orbits via Auxiliary-Controller-Independent Lyapunov-based Model Predictive Control	77	2	16-Jan-2026	2419	2446	Zhitong Yu, Haibin Shang, Zichen Zhao, Yue Dong, Lusha Shi	https://doi.org/10.1016/j.asr.2025.10.105
Space Technology, Policy, and Educ.	Design of a rendezvous robotic capture arm for DockSat	77	4	15-Feb-2026	5291	5304	Dane Groves, Hendrik Willem Jordaan	https://doi.org/10.1016/j.asr.2025.12.075

Earth Magnetosphere and Upper Atmos.	BDS-3 PPP ambiguity resolved percentage analyses under geomagnetic storms in solar cycle 25	75	7	1-Apr-2025	5523	5543	Zhuang Chen, Xiaomin Luo, Yanxiang Liu, Yujie Li, Xiaolong Wan, Yidong Lou	https://doi.org/10.1016/j.asr.2025.01.029
Earth Magnetosphere and Upper Atmos.	Evaluation of ionospheric correction models in multi-GNSS single-frequency SPP	76	2	15-Jul-2025	914	925	B. Milanowska, P. Wielgosz, N. Wang, M.M. Hoque, D. Tomaszewski, W. Jarmolowski, A. Krypiak-Gregorczyk, K. Krzykowska-Piotrowska, J. Rapiński	https://doi.org/10.1016/j.asr.2025.04.050
Earth Magnetosphere and Upper Atmos.	Impact of High-Intensity Long-Duration Continuous Auroral Electrojet Activity (HILDCAAs) on relativistic electrons in Earth's Radiation Belt during Van Allen Probes Era	76	5	1-Sep-2025	2897	2912	Ayushi Nema, Ankush Bhaskar, Kamlesh N. Pathak, Smitha V. Thampi, Abhirup Datta	https://doi.org/10.1016/j.asr.2025.06.041
Earth Magnetosphere and Upper Atmos.	Calibration of NRLMSIS 2.1 thermospheric mass density model below 200 km based on retrieved densities from re-entry satellite orbits	76	5	1-Sep-2025	2926	2938	Ying-Ji Yuan, Ming-Jiang Zhang, Hong-Bo Wang, Wei Zhang, Jian-Ning Xiong	https://doi.org/10.1016/j.asr.2025.06.048
Earth Magnetosphere and Upper Atmos.	First study of polarization jet/SAID using onboard ionosonde on Ionosfera-M satellite	77	3	1-Feb-2026	3618	3627	A.A. Sinevich, A.A. Chernyshov, S.A. Pulinets, D.V. Chuginin, M.M. Mogilevskiy	https://doi.org/10.1016/j.asr.2025.11.097
Solar and Heliospheric Physics	A forecasting framework for galactic cosmic ray flux in space weather applications	76	9	1-Nov-2025	5700	5713	David Pelosi, Fernando Barão, Bruna Bertucci, Francesco Faldi, Emanuele Fiandrini, Alejandro Reina Conde, Miguel Orcinha, Nicola Tomassetti	https://doi.org/10.1016/j.asr.2025.08.022
Solar and Heliospheric Physics	nonlinear force-free magnetic field extrapolation of the solar corona	76	11	1-Dec-2025	7205	7217	Zhenhua Liu, Chaowei Jiang	https://doi.org/10.1016/j.asr.2025.09.046
Astrophysics	Temporal variability in low-frequency radio interference: Insight from high-cadence monitoring at a candidate radio notification zone in Malaysia	76	3	1-Aug-2025	1832	1853	Affan Adly Nazri, Zamri Zainal Abidin, Mohamad Ridhaudin Mat Sabri, Zulfazli Rosli, Mohd Shaiful Rizal Hassan, Mohd Shazwan Mohd Radzi, Ahmad Najwan Zulkiplee, Dalilah Nur Fathiah Hanim Razak, Norsyazwani Asmi, Jinsong Ping, Mingyuan Wang, Liang Dong	https://doi.org/10.1016/j.asr.2025.05.035
Solar System Bodies	Tracking Near-Earth Asteroids' close approaches: 2023 DZ2, 2018 UY, and 2024 ON by the Southern Hemisphere Asteroid Research Consortium	76	2	15-Jul-2025	1163	1171	Dorota Mieczkowska, David Coward, Arie Verveer, John Kennewell, Ed Krzinzins	https://doi.org/10.1016/j.asr.2025.05.036
Special Issues	Influence of Monoenergetic and Broadband Aurora on SAR Imaging: A Case Study	76	7	1-Oct-2025	3815	3829	Yixun Zhu, Chao Xiong, Yifei Ji, Feixiang Tang, Simin Wang, Fengjue Wang	https://doi.org/10.1016/j.asr.2025.03.054
Special Issues	Analyzing Cosmic Ray Spectral Features: A Numerical Investigation	77	8	15-Apr-2026	8376	8390	Yuca C. Chen, Zachary M. Dorris, Eun-Suk Seo, Vladimir S. Ptuskin	https://doi.org/10.1016/j.asr.2025.08.050
Special Issues	Entry trajectory optimization considering blackout zone communication constraint	77	11	1-Jun-2026	11407	11417	Rouhe Zhang, Kang Wang, Xinran Duan, Zheng Chen	https://doi.org/10.1016/j.asr.2025.11.062
Special Issues	Study on Auroral Electrojet index (AE) and Joule heating during Solar cycle 23	78	1	1-Jul-2026	41	56	Sherin Ann Abraham, S. Antony, C.P. Anil Kumar	https://doi.org/10.1016/j.asr.2025.09.087