CALL FOR PAPERS
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on
"WSF-M Mission and Calibration/Validation"

The Weather System Follow-on – Microwave (WSF-M) is a Department of Defense (DoD) next-generation, operational, low earth orbit, environmental satellite system that provides space-based terrestrial environmental sensing capabilities. The WSF-M flies on polar sun-synchronous orbit at a nominal altitude of 833 km with Local Time Ascending Node (LTAN) at 1800 hours. The WSF-M primary payload, the Microwave Imager (MWI), is a conically scanning microwave radiometer, operating at 10.85, 18.85, 23.8, 37 and 89 GHz. It has a total of 17 channels with fully polarimetric digital channels at 10.85, 18.85 and 36.75 GHz and analog channels at 23.8, 37.3 and 89 GHz, which enables derivation of Ocean Surface Vector Winds (OSVW), Tropical Cyclone Intensity (TCI), snow depth, sea ice characterization, soil moisture and other environmental data products.

The WSF-M was successfully launched in April 2024 and has been performing as expected since launch. An intensive and comprehensive Calibration and Validation (Cal/Val) of MWI has been conducted.to ensure 1) accuracies of on-orbit MWI radiometric performance and geolocation; and 2) the performance of MWI algorithms and data products.

This special issue will introduce the WSF-M mission, MWI sensor, and data products to the community. It will discuss the WSF-M Cal/Val approach, activities and provide details of its data processing. Both the sensor and data products will be covered including characterization and applications of MWI data. The broad topics include (but are not limited to):

- WSF-M Mission
- MWI Instrument and On-orbit Performance
- Calibration Maneuvers for WSF-M
- Inter-Calibration with Other Sensors
- MWI Temperature Data Record (TDR)/Sensor Data Record (SDR) Algorithms
- Environmental Data Record (EDR) Algorithms and Data Product Verification
- Assimilation of WSF-M Data
- WSF-M MWI Radio Frequency Inference (RFI) Identification and Characterization
- Application of WSF-M Mission Data

Schedule

- 1 February 2026, Submission system opening
- 31 July 2026, Submission system closing

Format

All submissions will be peer reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on http://mc.manuscriptcentral.com/jstars, using the Manuscript Central interface and select the "WSF-M Mission and Calibration/Validation" special issue manuscript type. Prospective authors should consult the site: https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9082768 for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double column, single spaced). Please visit http://www.ieee.org/publications_standards/publications/authors/author_templates.html to download a template for transactions. Please note that as of Jan. 1, 2025, IEEE J-STARS has become a fully open-access journal charging a flat publication fee $1,800 per paper.

Guest Editors

Sayak Biswas	The Aerospace Corp (sayak.biswas@aero.org)
Shannon Brown	NASA Jet Propulsion Laboratory (Shannon.T.Brown@jpl.nasa.gov)
David Kunkee	The Aerospace Corp (david.kunkee@aero.org)