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IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

Special Issue on
"Soil Moisture Active Passive Validation Experiments (SMAPVEX) in Temperate and Boreal Forests"

The NASA Soil Moisture Active Passive (SMAP) is conducted with USDA and partner universities in the USA and Canada collections of remote sensing and in situ data aiming to retrieve and validate soil moisture and vegetation optical depth from microwave measurements in temperate and boreal forests. The temperate forest-focused SMAP Validation Experiment 2019-2022 (SMAPVEX19-22) occurred at two sites in New York and Massachusetts, USA. The boreal forest-focused experiment SMAPVEX 2022 in Boreal Forests (SMAPVEX22-Boreal) took place in Saskatchewan, Canada. Both experiments were concluded by the end of November 2022. These field campaigns represent an unprecedented amount of data collected in relation to microwave remote sensing of forests. The data sets include in situ soil moisture records based on stations and manual measurements at multiple near-surface depths; surface roughness measurements; vegetation water content estimates of tree trunks, branches, and leaves; vegetation structure characterization based on manual measurements and portable terrestrial laser scanner; airborne Lidar measurements, and Unmanned Aerial Vehicle Synthetic Aperture Radar (UAVSAR) measurements. The data will be available to the public during 2023 through National Snow and Ice Data Center (www.nsidc.org/data/smap). They will provide a new avenue for researchers to investigate and develop microwave remote sensing applications for forests.

The special issue will introduce the experiments and first results to the community to enable and encourage further exploitation of the data and advancement of microwave remote sensing techniques.

The broad topics include (but are not limited to):
- Descriptions of the experiment activities, data collection methods, and data processing
- Analyses of the measured parameters across temporal and spatial scales
- Modeling of radiometer and radar measurements over forests
- Retrieval approaches for soil moisture, vegetation optical depth, and vegetation water content
- Combination of multi-sensor acquisitions for remote sensing applications in forests

Schedule
1 February 2023   Submission system opening
31 December 2023   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 "**Soil Moisture Active Passive Validation Experiments (SMAPVEX) in Temperate and Boreal Forests**" 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, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee $1,250 per paper.

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